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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/560,838	12/15/2005	Daisuke Kanenari	OGW-0407	3726

7590 01/02/2009
Patrick G. Burns - Greer, Burns & Crain, Ltd.
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EXAMINER

KNABLE, GEOFFREY L

ART UNIT	PAPER NUMBER
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1791

MAIL DATE	DELIVERY MODE
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01/02/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/560,838	Applicant(s) KANENARI, DAISUKE	
	Examiner Geoffrey L. Knable	Art Unit 1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 September 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,5,12 and 13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,5,12 and 13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>9/26/2008</u> . | 6) <input type="checkbox"/> Other: _____ |

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1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. With respect to the 12-15-2005 IDS, the initialed copy was provided with the previous office action - copies thereof are present in the electronic file. If applicant does not have a copy or cannot access it from the electronic file, a copy can be provided.
3. Claims 1 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Caretta et al. (US 6,409,959) taken in view of Kaido et al. (US 6,136,123) and at least one of [Hashimura et al. (US 2002/0033557) and the admitted state of the prior art].

These references are applied for substantially the same reasons as set forth in the last office action. Kaido et al. is no longer optionally applied in view of the claimed Tg range, and the suggestion by Kaido et al. of an exemplary suitable adhesive having a Tg less than 40⁰C (col. 7, lines 8-16).

4. Claims 1 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hashimura et al. (US 2002/0033557) taken in view of Caretta et al. (US 6,409,959) and Kaido et al. (US 6,136,123).

Hashimura et al. discloses a method of manufacturing a pneumatic tire having an innerliner formed of thermoplastic elastomer (e.g. paragraph [0015]), comprising the steps of: placing the innerliner on the surface of the tire building drum (fig. 1a), the innerliner being cylindrically shaped and having a radially outer surface to which an adhesive has been applied (e.g. paragraph [0034]); disposing uncured tire components radially outwardly of the innerliner to form a green tire (e.g. figs. 1b/c); and curing the green tire. As to the tire building drum being heated in advance, Hashimura suggests

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that the adhesive can be applied to the innerliner by coating the adhesive dissolved in a solvent (e.g. paragraphs [0043]-[0044]). Caretta et al. '959 is also directed to formation of a tire in which innerliner layer(s) are formed at least in part by coating a material dissolved in a solvent and in particular, suggests that the evaporation of the solvent can be advantageously promoted by subjecting the support on which the tire layer is formed to a preheating step (esp. col. 9, lines 7-22). To preheat the building drum to promote evaporation of the solvent would therefore have been obvious and expected to improve productivity by reducing the wait time for solvent evaporation. As to the temperature of the drum at this stage, given that Hashimura suggest a preferred range of 40-80 degrees C for the subsequent heating step (during pressurization of the bladder - e.g. paragraph [0014]), it is submitted that the ordinary artisan would have understood that any preliminary heating for promoting solvent evaporation should also not be higher than this range, values within the claimed range being therefore obvious to ensure faster evaporation while not negatively influencing the properties of the liner (and not prematurely vulcanizing it either).

As to the particular Tg of the adhesive, Hashimura et al. discloses a wide range of adhesives can be used but does not characterize their Tg. The suitable and effective characteristics thereof would however have been selected by the artisan through routine optimization to yield suitable and effective adhesion, including adhesion at temperatures elevated to within the claimed range (note again that Hashimura et al. suggests heating the liner/adhesive to 40-80 degrees C during the toroidal shaping - paragraph [0014]). Note again also that Kaido et al., which is directed to selection of adhesives meeting

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essentially the same parameters (such a relative surface tensions) as Hashimura et al, suggests an exemplary suitable adhesive has a Tg less than 40⁰C (col. 7, lines 8-16).

A method as claimed in claim 1 would therefore have been obvious. As to claim 5, Hashimura et al. suggests a 0.1 mm (100 micron) liner thickness in the examples.

5. Claims 2, 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hashimura et al. (US 2002/0033557) taken in view of Caretta et al. (US 6,409,959) and Kaido et al. (US 6,136,123) as applied above, and further in view of Irie (US 4,468,267 - newly cited).

As to claims 2, 12 and 13, Hashimura et al. schematically suggests toroidally shaping of the tire but does not otherwise detail formation of the tire including assembly with the belt and tread. It however is well known and conventional in this art to cylindrically form a tire carcass followed by subsequent toroidal shaping of the carcass for assembly with the belt/tread assembly. Further, with respect to new claims 12 and 13 in particular, this shaping also conventionally can be effected in a two stage process in which the carcass is formed on one drum in a first stage and toroidally shaped for assembly with the previously prepared belt/tread - Irie is merely exemplary (e.g. col. 1). To effect the tire formation of Hashimura in such a conventional manner would therefore have been obvious and lead to only the expected and predictable results. As to the requirement in new claim 12 for natural cooling before toroidal shaping, given that there is inevitably some time elapsed from the first stage until the carcass is transferred to the second/shaping stage, at least some level of cooling (i.e. after the heating to promote evaporation) would necessarily occur. As to claim 13, to further cool forcibly would

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have been obvious if desired to speed up the processing, especially recognizing that holding at elevated temperatures is not desirable (e.g. paragraph [0013] of Hashimura et al.).

6. Applicant's arguments have been considered but are mostly moot in view of the newly formulated ground(s) of rejection above.

With respect to the temperature range, applicant has pointed out that Caretta '959 suggests a temperature range greater than that claimed in view of col. 6, lines 15-23. This range is however in reference to the temperature at which the prevulcanization is to take place and not the preheating temperature of the drum *to promote evaporation of the solvent* (col. 9, lines 13-22). Note again that since it would be undesirable to prematurely cure the liner/primer layer at this initial point in the process, assuring that the temperature is in fact lower than the prevulcanization temperature would have been obvious. Nothing in the present claims excludes an initial preheating for the purpose of promoting evaporation of a solvent based coating layer.

Since the reformulated rejections were not necessitated by the amendments to the claims, this rejection has not been made final.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Geoffrey L. Knable whose telephone number is 571-272-1220. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on 571-272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Geoffrey L. Knable/
Primary Examiner, Art Unit 1791

G. Knable
December 27, 2008